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(54) DUAL ENERGY DECOMPOSITION USING AUTOMATICALLY DETERMINED CANCELLATION PARAMETERS

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378/98.11, 98.9

(56) References Cited

U.S. PATENT DOCUMENTS

4,542,459 A	1	*	9/1985	Riederer		600/431
5,115,394 A	4	*	5/1992	Walters	***************************************	382/131

£ £40 007		_	7/1007	Class	250.00.4
				Chao	
5,771,269	Α	*	6/1998	Chao	378/5
5,931,780	Α	*	8/1999	Giger et al	600/407
6,052,433	Α	+	4/2000	Chao	378/98.9
6,173,034	B1	*	1/2001	Chao	378/98.8

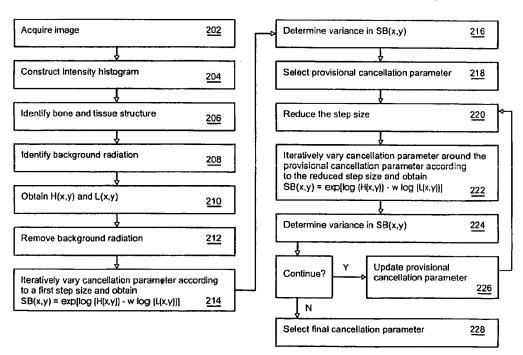
* cited by examiner

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(57) ABSTRACT

A method for determining a suggested value for a cancellation parameter for a dual energy decomposition includes obtaining a first energy level image of internal structure, obtaining a second, lower, energy level image of the internal structure, and iteratively processing the images to determine a provisional value for the cancellation parameter. The iteration includes varying a cancellation parameter in a cancellation equation, obtaining a structure cancelled image from the first and second energy level images according to the cancellation equation, and evaluating a cancellation metric from the structure cancelled image. The provisional cancellation parameter may then be chosen (e.g., as the value that approximately minimizes a variance cancellation metric). Further iterations may be performed around the provisional cancellation parameter to refine the provisional cancellation parameter into a final cancellation parameter.

36 Claims, 2 Drawing Sheets



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